

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/000043

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. ⁷: C07K 14/47, C07K 14/475, A61K 38/18, A61K 48/00, A61P 3/04, A61P 3/06, A61P 5/04, C07H 21/02, C07H 21/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
ANGIS: SEQ. ID. Nos. 1-9; DGENE SEQ. ID. Nos. 1-9 (Note, any sequences in the answer sets that were not differentially expressed in obese animals or in fasted animals were not considered as possible citations)
PubMed and Espac: keywords: hypothalamus, gastrocnemius, expression, psammomys, obesity, diabetes

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 2003/033513, A1 (AUTOGEN RESEARCH PTY LTD <i>et al.</i>) 24 April 2003 See whole document	1 - 31
P,X	WO 2003/018823, A1 (AUTOGEN RESEARCH PTY LTD <i>et al.</i>) 6 March 2003 See whole document	1 - 31
P,X	WO 2003/016542, A1 (AUTOGEN RESEARCH PTY LTD <i>et al.</i>) 27 February 2003 See whole document	1 - 31
X	WO 2002/062994, A1 (AUTOGEN RESEARCH PTY LTD <i>et al.</i>) 15 August 2002 See whole document	1 - 31

☒ Further documents are listed in the continuation of Box C

☒ See patent family annex

* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 16 February 2004	Date of mailing of the international search report 24 MAR 2004
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized officer DAVID GRIFFITHS Telephone No : (02) 6283 2628

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C (Continuation).

DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2001/002560, A1 (AUTOGEN RESEARCH PTY LTD <i>et al.</i>) 11 January 2001 See whole document	1 - 31
X	WO 2000/064931, A1 (AUTOGEN RESEARCH PTY LTD <i>et al.</i>) 2 November 2000 See whole document	1 - 31
X	WO 2002/008275, A2 (BAYER CORPORATION) 31 January 2002 See whole document	1 - 31
X	WO 1999/023217, A1 (INTERNATIONAL DIABETES INSTITUTE) 14 May 1999 See whole document	1 - 31

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Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
 - a. type of material
 - ☒ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material
 - ☐ in written format
 - ☒ in computer readable form
 - c. time of filing/furnishing
 - ☐ contained in the international application as filed
 - ☒ filed together with the international application in computer readable form
 - ☐ furnished subsequently to this Authority for the purposes of search
2. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 1, 22, 23-28 and 30 (all in part)
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
The scope of "a derivative or homolog" in claim 1 and "a derivative, homolog, analog, chemical equivalent or mimetic" in claim 28 is so unclear that a meaningful search is not possible and these claims have only been searched to the extent that they do not include any of these terms.
Continued on supplemental sheet...

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The only feature in common between the claimed sequences is that they are differentially expressed in hypothalamus in obese animals compared to lean animals or in fasted animals compared to fed animals or in diabetic animals compared to non-diabetic animals. However, the feature "differential expression in hypothalamus, in fasted animals compared to fed animals" is not novel since there are other genes known with this feature. Thus, no unity of invention is in evidence *a posteriori*.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No: II

Claims 23-28 and 30 are directed to agents or molecules that modulate the effect of the described genes or to the use of such agents. Terms such as 'agents' in their broadest scope do not restrict the compounds claimed to any particular family of chemicals and so claims to agents, modulators or their use are not fully supported by the description. The claims have only been searched to the extent that the agents are antibodies or similar molecules whose structures can be directly deduced from the present disclosure because they can not be feasibly or economically searched across their entire scopes.

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Information on patent family members

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member			
WO	2003/033513	NONE			
WO	2003/018823	NONE			
WO	2003/016542	NONE			
WO	2002/062994	CA	2437423	EP	1366164
WO	2001/00786	AU	54234/00	EP	1206566
WO	2000/064931	AU	39469/00	CA	2370286
				EP	1196438
WO	2002/008275	AU	79038/01	US	2002041870
WO	1999/023217	AU	10112/99	CA	2307839
		NZ	504327	EP	1030915
			US	6436670	
END OF ANNEX					